And even afterward, periods of close observation are essential to a successful course.

Joslin, with an experience gained in the handling of over 1,000 cases in this country, is well qualified to write on the treatment of diabetes, and his book is fully up to what we expected of him.

There are probably over one-half million diabetics in the United States, the majority of whom must necessarily be treated by the general practitioner. The author has, therefore, tried to make his book as simple and readable as possible, with the plan of treatment advised easy to follow.

There are six sections. I. Statistical Studies Upon the Course and Treatment. II. Important Factors in the Treatment. III. The Examination of the Urine, Blood and Respiration in Diabetes. IV. The Diet in Health and in Diabetes. V. Treatment. VI. Aids in the Practical Management of Diabetic Cases. VII. Foods and Their Composition.

Due to more accurate methods in clinical medicine, diabetes has been recognized more often of late years, hence its apparently greater frequency. What is more important, our methods of treatment have been and are still improving, and it is to educate the profession to this realization that the book is really written.

Much of its contents has been previously published in some form or other by Joslin, himself. Due credit is given Allen for his work, which taught in the main that prolonged starving was not harmful but beneficial to diabetics, and that the dangers of so-called vegetable days and starvation days as formerly used were due to the large amounts of fat given; that its reduction avoids acidosis. Also that starvation safely shortens the period of glycosuria, and thus the work of the physician, also often the stay in hospital.

The best feature in Joslin's book is the care bestowed in faithfully giving all the details of diet employed. A careful perusal should give the average practitioner a clear conception of what is expected of him. It should, however, teach him that much detail is necessary in his treatment of a diabetic and that his duty is not done when he tells him "eat of this list" and "avoid the following." Too often do we see this done, and only too often do we hear the unfortunate statement made by physicians, that small percentages of sugar in the urine do no harm, whereas strenuous dieting does injure the patient. We know the first statement to be untrue; the latter should only reflect upon the maker of the assertion.

Joslin's book should prove a mine of information to the average practitioner. Taken in connection with the very practical book of recipes of Hill and Eckman, it should enable any practitioner to work out the treatment of any case in a manner not only scientific, but full of interest and enjoyment to himself and patients. R. B.

The Kinetic Drive; Its Phenomena and Control. By George W. Crile, M. D., Professor of Surgery at the Western Reserve University. Octavo of 71 pages. illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $2.00 net.

This book is an epitome of a monograph which Dr. Crile has in preparation, and in which he will offer the complete experimental evidence upon which the following themes are founded.

Since the author states that the attitude he has assumed is unwarranted, and awaiting the completed work before looking at this book from too critical a viewpoint,—the following will simply indicate Crile's theme:

Man is an automaton whose primary work is energy transformation and he has a certain set of organs that concern themselves with this transformation, and which during sleep store up energy "Kineticization" is the process of transformation of potential into kinetic energy, and when the process is speeded up considerably there results what Crile terms the kinetic drive.

The mechanism of kineticization is essentially as follows: The blood being alkaline, its hemaglobin receives oxygen in the lungs and carries it to the brain, where, as the result of the union of oxygen and adrenin and brain cell substance there originate impulses probably identical with electricity. The ability to give out these impulses constitutes the "driving force of the brain," and when the latter is stimulated, in a normal manner, as in a demand for work in walking, etc., impulses are started along pathways in both the central nervous system and the autonomic nervous system, and so reach all the tissues. Certain of the impulses through the autonomic reach the thyroid and the adrenals. The thyroid, thus stimulated, manufactures more iodothyrin and the latter by virtue of its iodine content increases the permeability of all the tissues for electricity, so the driving force of the brain has less resistance and will produce greater response to a given stimulus. Likewise the adrenals secrete more adrenin, and the latter enhances the action of the brain driving center and it in turn causes greater production of adrenin—also the small amounts of adrenin present in the body are made the more efficient because of the action of iodothyrin mentioned above.

The impulses of brain over the voluntary nerve tracts are sent through more specific areas of the brain and thence to the muscles where they make the final transformation of the energy specific, e. g., for running, fighting, heat production, etc. In the transformation there is a production of acid by-products; the gaseous portion of the latter being excreted through the lung, while the other portions are broken down by the liver into substances which can be eliminated by the kidneys.

This is a picture of the "physiological kineticization" but in the excess kineticization or "drive" there is found a pathological process.

Here the drive is initiated through what Crile is pleased to term contact, distance and chemical ceptors: the contact ceptors reacting to cold, heat and physical injury; the distance ceptors to written and spoken language and to sight and smell; and the chemical ceptors to toxins arising in the course of infection, autointoxication, pregnancy, after food excess, in poisoning, insomnia, excessive exertion and intense emotion. Under the excess of stimulation the brain is driven harder; there is more iodothyrin—so more tissue permeability to electricity; more adrenin—so, again more activity of driving center of brain, and in addition symptoms and signs of excessive stimulation of the sympathetic—heart rate and force increased, thirst, perspiration, etc.; increased muscular activity—so increase in acid by-products and increased acidity of urine; and finally fatigue and exhaustion.

In addition, the organs begin to show real pathology and Crile gives numerous cuts to show identical pathological change regardless of the nature of the initiator of the drive. He pictures characteristic changes in brain, liver, adrenals, etc.; change in glycogen content of liver and muscles; increased production of adrenin; hyperplasia and increase in iodine content of thyroid; increased acidity of the urine, etc.

He correlates the symptomatology of Grave's disease, certain cardio-vascular and nephritic cases and of diabetes with a whipped up drive.

His considerations of the control of the drive are interesting and important. He would use, in some cases, opiates to control rate of transformation in response to any stimulus; morphine to prevent mobilization of adrenin; morphine and nitrous oxide to block energy transformation and prevent histological changes; alkalies to supply rapidly increasing deficiency of neutralizing bases.

He will offer experimental and laboratory proof of these tenets. He would educate away the emotional initiators of drive. Surgery in appropriate cases can break the connection between brain and thyroid or adrenals by excision of a portion of either—or cervical sympathetic may be divided. But when one removes a part of the kinetic system, he starts to de-kineticize the individual, diminishes his power for work, his response to the various stimuli, decreases excretion of acid by-products and raises sugar tolerance!

This book is of vital importance for one reason if for no other and that is, it offers further proofs that emotions alone can cause real and identical pathology to that initiated by infection, intoxication, etc., and Crile suggests that christian science or any other means of removing these "emotional stimuli" may well have left a body at least a little better able to fight the sum total of other stimuli. J. H. C.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Solution of Hypophysis-Squibb.—A sterilized, aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Nonofficial Remedies, 1916. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 2, 1916, p. 745.)

Benzidine.—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

Benzidine-Merck (for Blood Test).—This complies with the standards prescribed for benzidine, N. N. R. Merck & Co., New York. (Jour. A. M. A., Sept. 16, 1916, p. 879.)

Occult Blood Test (Dudley Roberts).—This consists of tablets each containing 5 grains of a trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibb and Sons. New York. (Jour. A. M. A., Sept. 16, 1916, p. 879.)

Mercurial Oil.—A mixture containing from 40 to 50 per cent. of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

Mercurial Oil-National Pathological Laboratory.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer macroscopically visible. It is marketed in graduated syringes ready for use and containing 2 Cc. National Pathological Laboratories, Chicago. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Liquid Petrolatum-Squibb, Heavy (Californian).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to be superior to liquid petrolatum, U. S. P. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Thromboplastin-Squibb.—A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 Cc. vials. E. R. Squibb and Sons, New York. (Jour. A. M. A., Sept. 23, 1916, p. 953.)

Chlorazene.—Chlorazene (sodium para-toluenesulphochloramine) is an active germicide acting much like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (Jour. A. M. A., Sept. 30, 1916, p. 1021.)

ITEMS OF INTEREST.

The U. S. Pharmacopoeia, IX.—The ninth revision of the U. S. Pharmacopoeia became official Sept. 1, 1916. It is a book of standards for drugs, but it is not a book of standard drugs. The pharmacopoeia includes substances which have been shown to be inert like the hypophosphites, complex and obsolete mixtures like the compound syrup of sarsaparilla, and drugs which have been tried and found wanting like saw palmetto berries. There is one great advantage in specifying U. S. P. preparations: to do so, is to invoke legal standards of identity and purity. The only way to be sure of obtaining substances of therapeutic efficiency, however, is to exercise discrimination; the pharmacopoeia is no guide to therapeutically valuable drugs. (Jour. A. M. A., Sept. 2, 1916, p. 750.)

The New National Formulary.—The National Formulary, 4th edition, becomes official September 1. It is published by the American Pharmaceutical Association. The preface says frankly: "The scope of the present National Formulary is the same as in previous issues, and is based on medical usage rather than on therapeutic ideals. The committee consists entirely of pharmacists, or of men with a pharmaceutical training, and it cannot presume either to judge therapeutic practice or follow any particular school of therapeutic practice. The question of the addition or deletion of any formula was judged on the basis of its use by physicians and its pharmaceutical soundness. The considerable use by physicians of any preparation was considered sufficient warrant for the inclusion of its formula in the book, and a negligible or diminishing use as justifying its exclusion." The National Formulary contains a large number of formulas for preparations which in the main are complex and superfluous. From the pharmacist's point of view, the book is a valuable one. Physicians who have a scientific training in the pharmacology of drugs will not want it; others will be better off without the temptations offered by its many irrational formulas. (Jour. A. M. A., Sept. 2, 1916, p. 764.)

The Hypophosphite Fallacy.—The Council on Pharmacy and Chemistry reports that the introduction of hypophosphites into medicine was due to an erroneous and now discarded theory as to